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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 10

Application Number: 09/873,290
Filing Date: June 05, 2001
Appellant(s): WIMMER ET AL.

Gary R. Edwards

For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 4-22-03.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The rejection of claims 1, 2, 9, 19, and 20 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8) Claims Appealed

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record.

US 6278361 B1	Magiawala et al	8-2001
US 4458535	Juergens	7-1984
6182021 B1	Izumi et al	1-2001
5525960	McCall et al	6-1996
5844474	Saling et al	12-1998
5895846	Chamussy et al	4-1999
6002327	Boesch et al	12-1999
DE 19947385 A1	Ito Shoji et al	10-1999
GB 2342452 A	Shoji Ito et al	04-2000

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

DETAILED ACTION

Claim Rejections - 35 USC § 102

(i) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

(ii) Claims 1-2, 9, 19, 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Magiawala et al (6278361).

Regarding claim 1, Magiawala et al disclose a method for detecting shock absorber damage (abstract), comprising:

detecting wheel speed signals of an antilock braking system rotational wheel speed sensor (col. 7, lines 16-30); and

determining a condition of said shock absorber by analyzing said wheel speed signals (col. 7, lines 16-65).

Regarding claim 2, Magiawala et al disclose the method according to Claim 1, wherein the step of analyzing said wheel speed signals includes *one of* determining a temporal course of a radius change of a vehicle tire (note, tire pressure determines radius change, col. 7, lines 46+), and determining a temporal course of a rotational speed change of a wheel rim, based on said wheel speed signals (col. 7, lines 16-65).

Regarding claim 9, Magiawala et al disclose the method according to Claim 1, further comprising high pass filtering of the wheel speed signal (note that in col. 5, lines 43-47 and col. 6, lines 2+, the DFT/FFT's are taken at cut-off frequencies of for example 0-150 Hz. That is the high frequencies are allowed to pass while the low frequencies are cut off, which therefore implies high pass filtering).

Regarding claim 19, Magiawala et al disclose an apparatus 8 (fig. 1) for detecting shock absorber damage (col. 6, lines 33+) in a vehicle having an antilock brake system (ABS, col. 7, lines 16-24) that includes a rotational wheel speed sensor 2, said apparatus comprising:

a processing unit 10 coupled to receive rotational wheel speed signals from said rotational wheel speed sensor 2 (col. 6, lines 33-40; col. 5, lines 43-47);

wherein said processing unit 10 determines characteristics of a shock absorber by analyzing said rotational wheel speed signals of said antilock system (ABS) rotational wheel speed sensor (col. 5, lines 32-47; col. 6, lines 33-40).

Regarding claim 20, Magiawala et al disclose the apparatus according to Claim 19, wherein said processing unit 10 includes a component for determining *one of* a temporal sequence of a radius change (note, tire pressure determines radius change, col. 7, lines 46+) of a vehicle tire, and a temporal course of a rotational speed change (col. 7, lines 16-65) of a wheel rim, based on said wheel speed signals.

Allowable Subject Matter

(iii) Claims 30-32 allowed.

In independent claim 30, the prior art does not disclose "comparing values of an auto density spectrum within a reference frequency range and an analysis frequency range". Therefore, claim 30 and dependent claims 31 and 32 are allowed.

(iv) Claims 3-8, 10-18, 21-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

(v) The following is a statement of reasons for the indication of allowable subject matter:

In claim 3, and 21, the prior art does not disclose "an auto density spectrum"

In claim 4, the prior art does not disclose "the method according to Claim 3, further comprising computing a quotient DSKW$_{\Delta r}$ or DSKW$_{\Delta n}$, from the auto power density spectra for first and second frequency ranges, the computed quotient corresponding to a characteristic shock absorber damage value." The prior art discloses only frequency ranges, but no quotient from the auto power density spectra for first and second frequency ranges was disclosed. In addition, the computed quotient corresponding to a characteristic shock absorber damage value was not disclosed by the prior art. Therefore, claim 4 is allowable.

Claims 5-8, 15-18 are objected for depending on allowable claim 4.

In claim 10, the prior art does not disclose "the method according to Claim 3, further comprising computing a quotient DSKW'$_{\Delta r}$ or DSKW'$_{\Delta n}$, from a quotient of the auto power density spectra for first and second frequency ranges, and a quotient of the auto power density spectrum for the second frequency range and third frequency range, the computed quotient DSKW'$_{\Delta r}$ or DSKW'$_{\Delta n}$ corresponding to a characteristic shock absorber damage value." The prior art discloses only frequency ranges, but no quotient from the auto power density spectra for first, second, third frequency ranges was disclosed as claimed. In addition, the computed quotient corresponding to a characteristic shock absorber damage value was not disclosed by the prior art. Therefore, claim 10 is allowable.

Claims 11-14 are objected for depending on allowable claim 10.

In claim 22, the prior art does not disclose "the apparatus according to Claim 21, further comprising computing a quotient DSKW$_{\Delta r}$ or DSKW$_{\Delta n}$, from the auto power density spectra for

first and second frequency ranges, the computed quotient corresponding to a characteristic shock absorber damage value." The prior art discloses only frequency ranges, but no quotient from the auto power density spectra for first and second frequency ranges was disclosed. In addition, the computed quotient corresponding to a characteristic shock absorber damage value was not disclosed by the prior art. Therefore, claim 4 is allowable.

Claims 23, 26-29 are objected for depending on allowable claim 22.

In claim 24, the prior art does not disclose "the apparatus according to Claim 21, wherein said processing further comprises a component for computing a quotient DSKW'$_{\Delta r}$ or DSKW'$_{\Delta n}$, from a quotient of the auto power density spectra for first and second frequency ranges, and a quotient of the auto power density spectrum for the second frequency range and third frequency range, the computed quotient DSKW'$_{\Delta r}$ or DSKW'$_{\Delta n}$ corresponding to a characteristic shock absorber damage value." The prior art discloses only frequency ranges, but no quotient from the auto power density spectra for first, second, third frequency ranges was disclosed as claimed. In addition, the computed quotient corresponding to a characteristic shock absorber damage value was not disclosed by the prior art. Therefore, claim 24 is allowable.

Claim 25 is objected for depending on allowable claim 24.

(11) Response to Argument

Applicant's arguments filed 4-22-03 have been fully considered but they are not persuasive for the following reasons:

The applicant's arguments about radial acceleration make no sense since no radial acceleration was claimed. The applicant interprets Radial Acceleration in Magiawala et al as the

acceleration of the wheel or tire in a direction perpendicular to the axis of rotation of the tire. In addition, the applicant insists that the radial acceleration Magiawala is different from a rotational wheel speed sensor of an ABS system.

In response, the examiner respectfully disagrees with applicants mischaracterization of Magiawala. That is the applicant did not even give any reason why he thinks the radial acceleration Magiawala is different from a rotational wheel speed sensor of an ABS system. The examiner contends that from the laws of physics, radial acceleration, also known as centripetal or centrifugal acceleration, is the acceleration derived when a wheel spins about an axis and it is usually interpreted as $(V^2 / R) = A$. Where V is the speed at which the tire or wheel is spinning, R is the radius of the tire or wheel, and A is the radial acceleration. The velocity of the vehicle is then gotten from the radial acceleration of the spinning wheels since the car rests on the spinning wheel. On page 5 of the brief, it is also interesting to point out that the applicant has admitted that Magiawala discloses monitoring shock absorber performance utilizing signals from a lateral accelerometer. Needless to say that acceleration, velocity, distance, and time are converted from one to the other according to the laws of physics.

Therefore, the applicant's arguments have no substance and cannot hold any ground since the radial acceleration (spinning of the wheels) in Magiawala is not the same as upward and downward bouncing of the wheel (the up sprung mass) as misinterpreted by the applicant.

Next, the applicant argues that in claims 1 and 19, Magiawala does not disclose detecting wheel speed signals of an antilock brake system. The examiner strongly disagrees, Magiawala (col. 7, lines 63-65; lines 16-24; col. 5, lines 32-47) disclose detecting wheel speed signals of an antilock brake system. In addition, the wheel sensors that the applicant says could be replaced as

indicated in the Magiawala reference are wheel speed sensors of the prior systems which are expensive. Thus the Magiawala system is cheaper compared to prior art systems.

Next, the applicant argues that amended claim 19 reads over the prior art. The examiner disagrees. The new limitations have been rejected accordingly in reference to Magiawala.

Next, in claims 2 and 20, the applicant argues that Magiawala does not disclose "determining a temporal course of a radius change of a vehicle tire, or determining a temporal course of a rotational speed change of a wheel rim, based on said wheel speed signals." The examiner again disagrees. Magiawala disclose "determining a temporal course of a radius change of a vehicle tire (note, tire pressure determines radius change, col. 7, lines 46+), or determining a temporal course of a rotational speed change of a wheel rim, based on said wheel speed signals (col. 7, lines 16-65).

For the above reasons set forth by the examiner, claims 1, 2, 9, 19, and 20 are anticipated by Magiawala and it believed that the rejection should stand.

Conferees

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Respectfully submitted,

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June 15, 2003

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